FORM No. H.E. 443

DRILLING RECORD

AREA: Mersey-Forth Power Development.	POSITION: CO-ORDINATES:	E:	N:	HOLE No. 5822
LOCATION: Lemonthyme Tunnel	ON LINE: Peg 'A' GF107	BEARING: 0°00'	AT CH.	
GEOLOGICAL PLAN: B6016A. SURVEY PLAN:	AT STN: 'A'	BEARING: 148°29'	DIST: 22'	FILE No.
DATES (a) DRILLED: June, 63 (b) WATER TABLE:	LEVEL: SURFACE	COLLAR	WATER TABLE	
METHOD: D D. DIAMETER: NX.	2463			SHEET 1 OF 14 SHEETS
SITE REMARKS: Basalt talus slope on Emu Plains above Tunnel Line	INCL.: HOLE DRILLED: VERT/~~HOR/INC~~	ANGLE FROM HORIZONTAL: 90°	DIRECTION	

DEPTH | CORE DRAWN | CORE LENGTH | CASING | RECOVERY % | GRAPHIC LOG | JOINTS No. Per Foot | FLUID RETURN | GROUND WATER | WATER PRESSURE TESTS LEAKAGE | REMARKS

Core length: 18" (to 15'); 3' (to 27'); 4" to 18" (to 46'); 3' (to 90').

Casing: 20' NX; 250' BX.

Joints: 2 (0–3'); 1/4 (3'–48'); 1 (at 46'); 1/4 (48'–81'); thin limonite (at 95').

Broken by drilling. (3'–46') Broken by drilling. (46'–75')

Fluid return: Grey

Depth	Remarks
0 – 3'	Talus
3' – 48'	Fresh, hard, dark grey compact porphyritic basalt; sparcely jointed; joints thinly weathered and limonite coated.
48' – 81'	Soft to medium hard dark grey altered vesicular basalt; some vesicles filled with zeolites; sparcely jointed. X-ray analysis indicates alteration product to be amorphous clays
81' – 90'6"	Fresh, hard, dark grey, porphyritic basalt; few vesicles; sparcely jointed.
90'6" – 104'	Soft to medium hard, dark grey altered vesicular basalt; some vesicles filled with

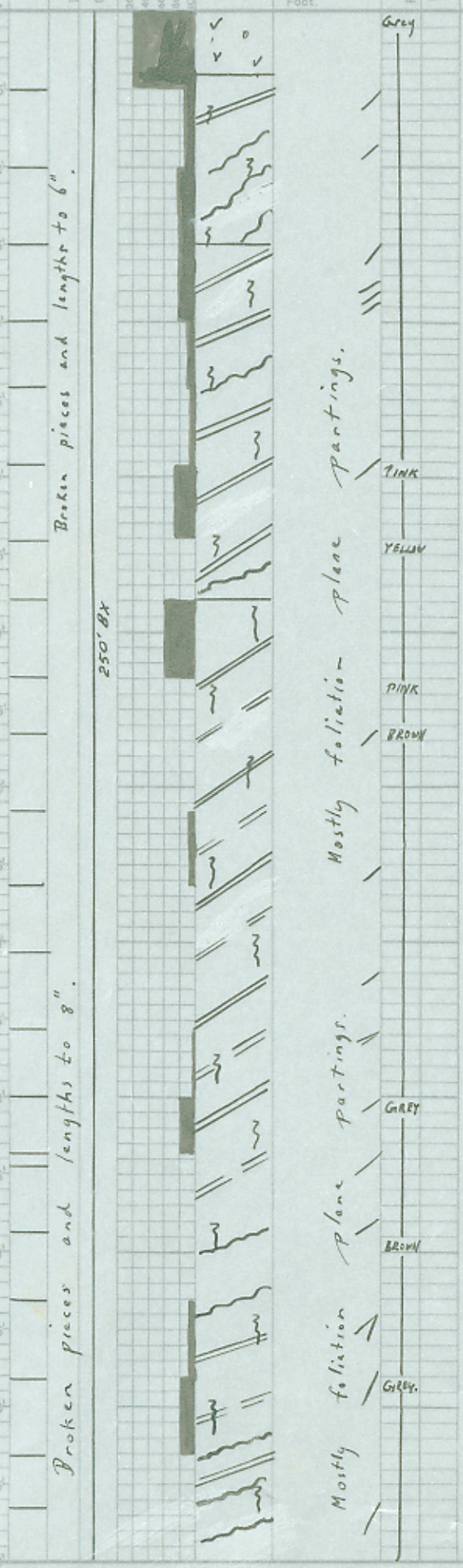
DRILLING RECORD

AREA: Mersey-Forth Power Development.
LOCATION: Lemonthyme Tunnel
GEOLOGICAL PLAN: B6016A SURVEY PLAN:
DATES (a) DRILLED: June, 63 (b) WATER TABLE:
METHOD: DD DIAMETER: NX, BMLC
SITE REMARKS: Basalt talus slope on Emu Plains above Tunnel Line

POSITION: CO-ORDINATES: E: N: | ON LINE: BEARING: AT CH: | AT STN: BEARING: DIST:
LEVEL: SURFACE COLLAR WATER TABLE
INCL.: HOLE DRILLED ANGLE FROM HORIZONTAL DIRECTION | VERT/~~HOR/INCL~~ 90°

HOLE No. 5822
FILE No.
SHEET 2 OF 14 SHEETS

DEPTH | CORE DRAWN | CORE LENGTH | CASING | RECOVERY % (20 40 60 80 100) | GRAPHIC LOG | JOINTS No Per Foot | FLUID RETURN | GROUND WATER | WATER PRESSURE TESTS LEAKAGE | REMARKS



zeolites; sparcely jointed; joints thinly weathered and limonite coated.

104'-115' Dull greenish-grey, soft, decomposed to weathered schist; dip of foliation 10°-45°.

115'-138' Dull greenish-grey, soft, weathered to decomposed schist (chlorite and clay alteration products); moderately jointed; dip of foliation 45°.

154' ½" Disturbed Quartz vein.

156' 1" Disturbed Quartz vein.

138'-290' Dull greenish-grey, soft to moderately hard, weathered to partially weathered schist containing pockets of decomposed schist (chlorite and clay alteration products); moderately jointed; dip of foliation 45°-65°.

184' ½" Quartz vein

190' ½" Quartz vein

DRILLING RECORD

AREA: Mersey Forth Power Development

LOCATION: Lemonthyme Tunnel

GEOLOGICAL PLAN: B6016A SURVEY PLAN:

DATES (a) DRILLED: June 62 (b) WATER TABLE:

METHOD: DD DIAMETER: NX, BMLC

SITE REMARKS: Basalt talus slope on Emu Plains above Tunnel Line

POSITION: CO-ORDINATES: E: N: | ON LINE: BEARING: AT CH: | AT STN: BEARING: DIST:

LEVEL: SURFACE COLLAR WATER TABLE

INCL.: HOLE DRILLED ANGLE FROM HORIZONTAL DIRECTION | VERT/~~HOR/INC~~ 90°

HOLE No. 5822

FILE No.

SHEET 3 OF 14 SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
200							Grey			
205										
210		Broken pieces and lengths to 6"	250' BX							210½' 6" Decomposed
215										215' 6" Decomposed
										218' 9" Decomposed
220										223'-224' Decomposed
225										
230						Partings				233'-234' Decomposed
										237½' ½" Quartz Vein
235										238½' ½" Quartz vein
										239'-240' Four ½" Quartz veins
240			459' AX		CAVED.	Plane				243' 2" Decomposed
										243½' 2" Decomposed
245										246' 2" Decomposed
250										252' ½" Quartz Vein
255						foliation	YELLOW			
260		Broken pieces and lengths to 18"					GREY			
						Mostly	BROWN			264½' 6" Decomposed
265							GREY			268' ½" Quartz vein
270										271' ½" Quartz vein
										273' ½" Quartz vein
275										273½' ½" Quartz vein
										273½'-275' Decomposed
280										280½' 6" Decomposed
285							MUD.			
										299' 1" Decomposed
290							DRILLING			Dull greenish-grey, moderately hard, partially weathered schist; 290'-308' moderately jointed.
295							MUD			
300										

FORM No. R.E. 443

DRILLING RECORD

AREA: Mersey Forth Power Development

LOCATION: Lemonthyme Tunnel

GEOLOGICAL PLAN: B6016A SURVEY PLAN:

DATES (a) DRILLED: June 63 (b) WATER TABLE:

METHOD: DD DIAMETER: NX, BMLC

SITE REMARKS: Basalt talus slope on Emu Plains above Tunnel Line

POSITION — CO-ORDINATES: E: N:

ON LINE: BEARING: AT CH:

AT STN: BEARING: DIST:

LEVEL — SURFACE COLLAR WATER TABLE

INCL. — HOLE DRILLED: ANGLE FROM HORIZONTAL: DIRECTION:

VERT/~~HOR/INCL~~: 90°

HOLE No. 5822

FILE No.

SHEET 4 OF 14 SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
300'										
305'										
310'										
315'										
320'										
325'										
330'										
335'										
340'										
345'										
350'										
355'										
360'										
365'										
370'										
375'										
380'										
385'										
390'										
395'										
400'										

Broken pieces and lengths to 4".

459' AX

Broken pieces and lengths to 8"

Mostly foliation plane Partings

MUD DRILLING.

MUD DRILLING.

MUD

308'-344' Dull greenish-grey, soft, weathered and decomposed schist (chlorite and clay alteration products).

333' 2" Quartz vein

344'-367' Dull greenish-grey, soft to moderately hard, partially weathered schist with pockets of decomposed schist (chlorite and clay alteration products); moderately jointed

355'-356' Decomposed
356' ¼" Quartz vein
357¼" ¼" Quartz vein
362' 4" Decomposed
364' 2" Quartz vein
365' Three ¼" Quartz veins
367'-368' Decomposed
367½' ½" Quartz vein.
368½' 6" Decomposed
370'-371' Decomposed
372½' 6" Decomposed
379'-380' Decomposed

382' 2" Decomposed
386' ½" Quartz vein

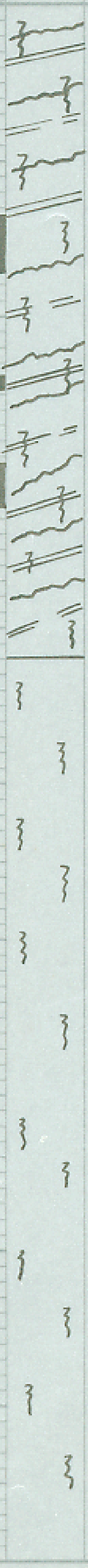
367'-442' Dull greenish-grey, soft to moderately hard, weathered to partially weathered schist with pockets of decomposed schist (chlorite and clay alteration products); moderately jointed; dip of foliation 60°-75°.

387'-388' Decomposed
389-390 Decomposed.

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT	POSITION	CO-ORDINATES:	E:	N:	HOLE No. 5822
LOCATION: Lemonthyme Tunnel		ON LINE:	BEARING:	AT CH.	
GEOLOGICAL PLAN: B6016A SURVEY PLAN:		AT STN:	BEARING:	DIST:	FILE No.
DATES (a) DRILLED: June 63 (b) WATER TABLE:	LEVEL	SURFACE	COLLAR	WATER TABLE	
METHOD: D.D. DIAMETER: NX, BMLC					SHEET 5 OF 14 SHEETS
SITE REMARKS: Basalt talus slope on Emu Plains above Tunnel Line.	INCL.	HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION	
		VERT/~~HOR/INC~~	90°		

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY %	GRAPHIC LOG	JOINTS No. Per Foot	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
400–445		Broken pieces and lengths to 8"	459' AX				MUD			401½'–403' Decomposed; 405' 1" Quartz Vein; 406'–407' Decomposed; 409½' 6" Decomposed; 417' 2" Decomposed; 420' 1" Quartz Vein; 422½' 2" Quartz Boudin; 423' 9" Decomposed; 424'–425' Decomposed; 426'–427' Decomposed; 428–432' Decomposed; 435'–436' Decomposed.; 437'–438' Decomposed; 443' 1" Quartz Boudin
445–500		Lengths to 2'					DRILLING; GREY			442'– Fresh, medium hard, dark bluish-grey schist; moderately jointed; joints tight. Dip of foliation 70° to Vertical. 472' ½" Quartz Boudin; 474' ½" Quartz Boudin.



DRILLING RECORD

AREA: Mersey Forth Power Development
LOCATION: Lemon Thyme Tunnel
GEOLOGICAL PLAN: B6016A. SURVEY PLAN:
DATES (a) DRILLED: June '63 (b) WATER TABLE:
METHOD: D.D. DIAMETER: NX, BMLC.
SITE REMARKS: Basalt talus slope on Emu Plains above Tunnel Line.

POSITION: CO-ORDINATES: E: N: | ON LINE: BEARING: AT CH: | AT STN: BEARING: DIST:
LEVEL: SURFACE COLLAR WATER TABLE
INCL.: HOLE DRILLED ANGLE FROM HORIZONTAL DIRECTION | VERT/~~HOR~~/~~INC~~ 90°

HOLE No. 5822
FILE No.
SHEET 6 OF 144 SHEETS

DEPTH | CORE DRAWN | CORE LENGTH | CASING | RECOVERY % (20 40 60 80 100) | GRAPHIC LOG | JOINTS No. Per Foot | FLUID RETURN | GROUND WATER | WATER PRESSURE TESTS LEAKAGE | REMARKS

GRAY

Lengths up to 20'

501-3' Quartz boudins.

509'10" Quartz boudin
511' Quartz vein
512' Iron pyrites
514-6' Quartz veining

520'6" Iron pyrites

525' Quartz boudins
530' Foliation 65-70°
535' Quartz filled joint veins, foliation 70°

Fresh, medium-hard, dark bluish-grey schists, showing closed (tight) joints, quartz boudins and occasional veins and iron pyrites along many of the joint and foliation planes. Dip of foliation usually ≥ 65°, occasionally as low as 35°.

538' Foliation 80°. Small quartz boudins
546' Quartz boudins 3-4"

550' Large quartz boudin. Foliation 70-80°
551' Dip of foliation reduces to 45-50°
552' Quartz boudin
555' Large boudin and quartz veining.
556-9' well foliated schist with no apparent joints and a few quartz boudins.

569' Minor folding of foliation
General dip 65-70°
571' Minor folding of foliation, iron pyrites seen along foliation planes
573' Large quartz boudin.
577' Flexures seen in foliation planes. Dip 55-60°
581' Joint sealed by quartz
587' Quartz veining. Foliation 45°
591' Quartz boudins, iron pyrites along joints.
593' Foliation planes folded
594' Foliation 70° → 35° → 70°
599' Jointed with quartz boudins

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT

LOCATION: Lemonthyme Tunnel

GEOLOGICAL PLAN: B6016A SURVEY PLAN:

DATES (a) DRILLED: June 63 (b) WATER TABLE:

METHOD: DD DIAMETER: NX, BMLC.

SITE REMARKS: Basalt talus slope on true Plains above Tunnel line.

POSITION	CO-ORDINATES:	E:	N:	HOLE No.
	ON LINE:	BEARING:	AT CH:	5822
	AT STN:	BEARING:	DIST:	FILE No.
LEVEL.	SURFACE	COLLAR	WATER TABLE	
				SHEET
INCL.	HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION	7 OF 14 SHEETS
	VERT/~~HOR.~~/INC.	90°		

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
600'							GREY			600-602' Quartz boudins. Foliation 50-60°
605'										606-7' Iron pyrites along joint planes altered to limonite.
610'										610' Cemented joints with chlorite.
615'						2-3				615' Quartz boudins. Foliation 60°
620'										
625'										627' Foliation 60°
630'										Fresh, medium hard, dark, bluish-grey schists showing closed joints, quartz boudins and veins. Joint planes and foliation may show development of iron pyrites and chlorite.
635'										
640'										637' Quartz boudins Foliation 75°
645'						1				641' Iron pyrites along joints
650'										645' Quartz boudin ruptured along joint line.
655'										648-50' Strongly veined and jointed schist.
660'		Lengths up to 17"				1				654' Foliation 70°. Quartz veining.
665'										663' Foliation 65° Iron pyrites present
670'						½				670' Small quartz boudin
675'										672' Large quartz boudin with iron pyrites. Foliation 65°
680'						½				680' Quartz boudin with associated chlorite
685'										Fresh, medium hard, dark, bluish grey schists showing fewer joints than previously. Chlorite much more common.
690'						½				681-2' Mass of quartz with stretched out inclusions of chlorite & schist.
695'										683' Quartz boudin surrounded by chl.
700'										684-698' Quartz boudins with chlorite Foliation variable, generally 50°-60° but occasionally as low as 25°

FORM NO. H.E. 445

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT

LOCATION: Lemonthyme Tunnel

GEOLOGICAL PLAN: B6016A SURVEY PLAN:

DATES (a) DRILLED: June 63 (b) WATER TABLE:

METHOD: D.D. DIAMETER: NX, BMLC.

SITE REMARKS: Basalt talus slope on the Emu Plains above Tunnel Line

POSITION

CO-ORDINATES:	E:	N:
ON LINE:	BEARING:	AT CH:
AT STN:	BEARING:	DIST:

LEVEL.

SURFACE	COLLAR	WATER TABLE

INCL.

HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION
VERT./~~HOR./INC.~~	90°	

HOLE No. 5822

FILE No.

SHEET 8 OF 14 SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
700'							GREY			702' Foliation 70–75° Cemented joints
705'						2				708' Foliation 55–60°
710'						3				710'-12' Quartz/chlorite boudins
715'						2				718' Foliation 65–70°
720'		14" to Lengths up								Well jointed, fresh, medium hard, dark bluish-grey schists showing quartz boudins with associated chlorite.
725'						2				724'-725' Flexure in foliation associated with quartz/chlorite boudins.
730'										730' Foliation 75–80°
735'										731' Large quartz boudin with associated chlorite and Fe pyrites
740'						4½				
745'										746' Flexed foliation planes
750'										749' Quartz/chlorite boudins. Fol. 55°
755'						5½				
760'										762' Flexed foliation planes
765'										
770'		20" to Lengths up				10				768-9' Quartz/chlorite boudins. Foliation 60–35°
775'						2				Uniform, fresh, medium hard, dark bluish grey schists with quartz/chlorite boudins. Joints are fewer, foliation fairly constant.
780'										777' Foliation 65–70°
785'						1				780' Joint with associated quartz veining.
790'										783' Cemented joint.
795'										788' Foliation 55°
800'										792' Quartz boudin with chlorite
										795' Quartz boudin with chlorite Fol. 40–45°
										799' Quartz/chlorite boudins.

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT

LOCATION: Lemon Kyme Tunnel

GEOLOGICAL PLAN: B 6016A SURVEY PLAN:

DATES (a) DRILLED: June '63 (b) WATER TABLE:

METHOD: D.D. DIAMETER: NX. BMLC

SITE REMARKS: Basalt talus slope on the Lemu Plains above Tunnel Line.

POSITION

CO-ORDINATES:	E:	N:
ON LINE:	BEARING:	AT CH:
AT STN:	BEARING:	DIST:

LEVEL.

SURFACE	COLLAR	WATER TABLE

INCL.

HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION
VERT/~~HOR./INC.~~	90°	

HOLE No. 5822

FILE No.

SHEET 9 OF 14 SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
800							GR.			802'-4' Large quartz/chloride bonding. Foliation 56°
805										
810						1				Uniform fresh, medium hard, dark bluish grey schists with occasional quartz/chloride bonding. Sparsely jointed. Foliation fairly constant.
815										814' Filled joint. Foliation 50°
820										
825										827' Quartz/chloride bonding.
830						1				
835										836'-838' Schists show greater overall development of chlorite. Foliation 45°
840										
845		22"								841'-842' Quartz/chlorite bonding Foliation 35°
850						2				
855		Lengths up to				3				853'-854' Quartz/chlorite bonding. Foliation 25°
860						1				Uniform, fresh, medium hard, dark bluish grey schists with occasional quartz/chlorite bonding. Well jointed, foliation variable. 860' Foliation 45°
865										
870						2				870'-872' Quartz/chlorite bonding Foliation 35-40°
875						1				
880										877'-878' Occasional quartz/chlorite bonding. Foliation 50°
885										883' Quartz/chlorite bonding 885' Foliation 45°
890						1				
895										894' Foliation 60°
900						2				897' Quartz/chlorite bonding

FORM No. H.E. 443

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT

LOCATION: Lemon Kyme Tunnel

GEOLOGICAL PLAN: B6016A SURVEY PLAN:

DATES (a) DRILLED: June '63 (b) WATER TABLE:

METHOD: D.D. DIAMETER: NX. BMLC

SITE REMARKS: Basalt talus slope on the Fen Plains above Tunnel line.

POSITION

CO-ORDINATES:	E:	N:
ON LINE:	BEARING:	AT CH:
AT STN:	BEARING:	DIST:

HOLE No. 5822

FILE No.

LEVEL.

SURFACE	COLLAR	WATER TABLE

INCL.

HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION
VERT/~~HOR~~/~~INC~~	90°	

SHEET 10 OF 14 SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE
900'							GREY		
905'						2			
910'						2			
915'						3			
920'						2			
925'						1			
930'									
935'						2			
940'									
945'						2			
950'						2			
955'									
960'						3			
965'						1			
970'									
975'									
980'									
985'						2			
990'									
995'									
1000'									

Lengths by 10 to 20"

REMARKS

902' Irregular joint.

905' Large joint filled with quartz and chlorite.

914' Vertical quartz filled joint with associated angles of 70°. Foliation 40°

927' Vertical joint showing pyrites.

937' Large quartz boudin with associated chlorite & pyrites.

942' Well jointed schist. Foliation 50°

Fresh, medium hard, dark bluish grey – green greenish – schists, usually well jointed. Small quartz / chlorite boudins common. Iron pyrites seen along joint planes and associated with boudins. Foliation variable.

953'–956' Quartz/chlorite boudins Foliation 60°.

963'–964' Large quartz/chlorite boudins. Foliation 50°

975'–976' Well jointed schist Foliation 50°

981' Quartz boudins. Foliation changes from 65°→35°

986' Small folds.

997' Quartz/chlorite boudin.

FORM No. R.E. 443

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT.

LOCATION: Lemonthyme Tunnel

GEOLOGICAL PLAN: B6016A SURVEY PLAN:

DATES (a) DRILLED: June '63 (b) WATER TABLE:

METHOD: D.D. DIAMETER: NX, BMLC.

SITE REMARKS: Basalt talus slope on the Rau Plains above Tunnel Line

POSITION

CO-ORDINATES:	E:	N:
ON LINE:	BEARING:	AT CH:
AT STN:	BEARING:	DIST:

HOLE No. 5822

FILE No.

LEVEL

SURFACE	COLLAR	WATER TABLE

INCL.

HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION
VERT./~~HOR./INC~~	90°	

SHEET 11 OF 14 SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
100 0							GREY.			
						3				102'-103' Quartz bonding and jointing Foliation 65°
105 5										
						3				1012'-1013' Quartz bonding with 'seams' of chlorite.
110 10										
115 15										118' Filled joint or vein.
120 20										
125 25										1027' Quartz vein
						2				1030' Bonding and joints Foliation 35°
130 30										132'-133' large quartz/chlorite bonding
135 35										
140 40										Fresh, medium hard, dark bluish grey - often greenish — schists, less well jointed than above. Occasional quartz/chlorite bondings. Foliation variable.
145 45		20"				1				
150 50		15								
155 55										1057' Foliation 50°
160 60		Lengths cut								1061'-1063' Quartz/chlorite bondings.
										1065' Slickensided surface?
165 65						1				
170 70										1072' Foliation 60°
175 75										1076' Quartz/chlorite bondings.
180 80						1				
185 85										1086' Foliation 58°
190 90										1089' Quartz/chlorite bondings.
										1091' Quartz bondings.
195 95						½				
200 100										

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT		POSITION	CO-ORDINATES:	E:	N:
LOCATION: Lemonthyme Tunnel			ON LINE:	BEARING:	AT CH:
GEOLOGICAL PLAN: B 6016A	SURVEY PLAN:		AT STN:	BEARING:	DIST:
DATES (a) DRILLED: June '63	(b) WATER TABLE:	LEVEL	SURFACE	COLLAR	WATER TABLE
METHOD: D.D.	DIAMETER: NX, BMLC				
SITE REMARKS: Basalt talus slope on the Kara Plains above Tunnel Line.		INCL.	HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION
			VERT/~~HOR/INC.~~	90°	

HOLE No. 5822

FILE No.

SHEET 12 OF 14 SHEETS

Core length: Lengths up to 24"

Fluid return: GREY

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
1100'										1103' Quartz boudins. Foliation 40°
1105'										
1110'						½				
1115'										Fresh, medium hard, dark bluish grey - often greenish - schists, less well jointed than above. Occasional quartz/chlorite boudins. Foliation variable. Lithology uniform.
1120'										
1125'										
1130'										
1135'						2				
1140'										Fresh, medium hard, dark bluish grey - often greenish - schists strongly jointed with structures indicative of movement i.e. movement along joint planes, occurrence of large boudins in which the chlorite has been 'squeezed' out. Iron pyrites is present.
1145'						1				
1150'										
1155'										1157' Quartz boudin with fresh chlorite
1160'										1161' Large boudin with quartz and chlorite.
1165'						2				1166'-1167' Slight brecciation along joint planes?
1170'										1170° Foliation 30°
1175'										Uniform, fresh, medium hard, dark bluish grey - often greenish - schists with occasional joints and quartz/chlorite boudins. Foliation variable.
1180'						½				1174' Foliation 60°
1185'										1186' Quartz boudin
1190'										
1195'						2				
1200'										1199' Foliation 30°

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT.
LOCATION: Lemanbryne Tunnel
GEOLOGICAL PLAN: B 6016 A SURVEY PLAN:
DATES (a) DRILLED: June '65 (b) WATER TABLE:
METHOD: D.D. DIAMETER: NX, EMLC.
SITE REMARKS: Basalt talus slope on the Fenn Plains above Tunnel Line.

POSITION: CO-ORDINATES: E: N: HOLE No. 5822
ON LINE: BEARING: AT CH:
AT STN: BEARING: DIST: FILE No.
LEVEL: SURFACE COLLAR WATER TABLE
INCL.: HOLE DRILLED ANGLE FROM HORIZONTAL DIRECTION
VERT./~~HOR./INC.~~ 90° SHEET 13 OF 14 SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 90 100)	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
1200'							GREY			1205' Foliation 45°
1205'										Uniform, fresh, medium hard, dark bluish grey – often greenish – schists with occasional joints and quartz / chlorite bonding. Foliation variable. 1213' Foliation 25°-30°
1210'										
1215'						½				
1220'						2				1222' Strong joints with associated shearing. Quartz & chlorite seen along the planes. Foliation 35°
1225'										
1230'						½				1231' Quartz bonding with 'seams' of chlorite.
1235'										
1240'						3				1239' Strongly jointed gone with quartz
1245'						3				Fresh medium hard, dark bluish grey – often greenish – schists often strongly jointed. Small quartz / chlorite bonding occurs. Foliation usually in range 30°-50°
1250'		26"				2				1244'-1248' Quartz chlorite bonding with much jointing. Iron pyrites seen along joints. Foliation 55°
1255'		15				2				
1260'										
1265'						2				1266' Foliation 40°
1270'						2				
1275'		Lengths up				1				1275' Foliation 50°
1280'										1283' Quartz / chlorite bonding Foliation 45°
1285'										Fresh medium hard, dark bluish grey – often greenish – schists showing occasional joints. Small quartz / chlorite bonding Foliation 25°-50°
1290'										
1295'										1295' Foliation 40°
1300'										

DRILLING RECORD

AREA: MERSEY FORTH POWER DEVELOPMENT

LOCATION: Lemanbyme Tunnel

GEOLOGICAL PLAN: B 6016A SURVEY PLAN:

DATES (a) DRILLED: June '63 (b) WATER TABLE:

METHOD: D.D. DIAMETER: NX. BMLC.

SITE REMARKS: Basalt talus slope on the Knua Plains above Tunnel Line.

POSITION

CO-ORDINATES:	E:	N:
ON LINE:	BEARING:	AT CH:
AT STN:	BEARING:	DIST:

HOLE No. 5822

FILE No.

LEVEL.

SURFACE	COLLAR	WATER TABLE

INCL.

HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION
VERT/~~HOR/INC~~	90°.	

SHEET 14. OF 14. SHEETS

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY % (20 40 60 80 100)	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
1300'							GREY			
1305'										Fresh, medium hard, dark bluish grey - often greenish - schists showing occasional joints. Small quartz/chloride boudins. Foliation 25°–50°
1310'						2				
						3				1314'-1318' Near vertical jointing with chloride & iron pyrites along planes
1315'										
						2				
1320'										Fresh, medium hard, dark bluish grey - often greenish - schists often showing strong but closed joints. Quartz/chloride boudins and associated iron pyrites present. Foliation 30°–60°
						1				
1325'						2				
										1323'-1324' Quartz/chloride boudins & filled joints.
1330'		16"				1				1327'-1329' Iron pyrites along closed joints.
										1330' Foliation 30°→50°
1335'										1335' Quartz/chloride boudin, traces of FE pyrites throughout rock.
										1339' Foliation 40°
1340'						1				
										1349' Foliation 49°
1345'										Fresh medium hard, dark bluish grey schists, sparsely jointed with occasional quartz/chloride boudins. Foliation 40°–50°
						1-4				
1350'										1352' Chloride filled joint, iron pyrites present.
										1353' Iron pyrites seen in joint planes and cavities
1355'										
1360'										
1365'										Hole completed 1,365'-4"
70'										
75'										Logged by: S. J. Paterson & C. Rawlings 1.12.63
80'										
85'										
90'										
95'										
00'										

Length up